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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,391	11/19/2001	Willem Van Schaik	P 284106 P-0293.000-US	8247

909 7590 06/09/2003
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EXAMINER

GURZO, PAUL M

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 06/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/988,391

Applicant(s)

VAN SCHAİK ET AL.

Examiner

Paul Gurzo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

Claims 5-8 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected device manufacturing method, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 9.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Ex, AM, IN, CO, IF, PM, PW, BP, P1, P2, M1, and M2. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of copending

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Application No. 09/988,830. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-4 of the instant application are merely re-written versions of claims 1-6 of application 09/988,830.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: a lithographic projection apparatus comprising a "radiation system to supply a projection beam of electromagnetic radiation having a wavelength of 250 nm or less", "a support structure to support...to a desired pattern", "a substrate tablet to hold a substrate", "a projection system...of the substrate", and "a gas supply."

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hase et al. (6,252,648) in view of Somekh (6,394,109).

Regarding claims 1-3, 648 teaches a projection apparatus comprising a light radiation system (6) for providing a projection beam of electromagnetic radiation having a wavelength of 250 nm or less, a support structure (obvious element of an exposure apparatus) for supporting a reticle (3) which can be used to pattern the projection beam according to a desired pattern, a substrate table (obvious element of an exposure apparatus) to hold a substrate (4), a projection lens (5) for projecting the patterned beam onto a target portion of the substrate, a gas supply (8a, 10a) constructed an arranged to supply a purge gas to a space in the exposure apparatus, the space containing an optical component, wherein the purge gas comprises an amount of oxygen having a predetermined concentration (not greater than a few grams per m^3) (col. 4, lines 45-49 and Fig. 1).

648 further teaches the purge gas comprising inert gas such as helium, argon, nitrogen or a mixture thereof (claim 5). 648 does not explicitly teach the claimed total partial pressure range. However, 109 teaches a method and apparatus for removing the contaminating object formed on the surface of components in lithography exposure apparatus using a cleaning object including an oxygen gas (216) to remove the contaminants. 109 teaches the oxygen "may be sources from any oxygen containing compounds, such as O_3 , N_2O , water vapor...and other like compounds that are either neutral or ionized (col. 5, lines 42-50) wherein the flow rate and pressure of the oxygen containing species are predetermined. This provides a clear suggestion that it would have been obvious to a skilled artisan to determine the proper pressure and proper amount of containing in the purge gas to achieve a highly effective apparatus of cleaning optical

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elements in the exposure device. In view of the teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate these teachings to obtain the invention as claimed for the purpose of cleaning the optical components in the lithographic apparatus and improving the quality of the imaging system. Also, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hase et al. (6,252,648), in view of Somekh (6,394,109), and further in view of Akagawa et al. (6,288,769).

Regarding claim 4, 648 discloses substantially all basic features of the instant claims except for supplying an electromagnetic field having a wavelength of 250 nm or less for removing the contaminants. However, this technique is well known per se. For example, 769 teaches using ArF light of light beams having wavelength of 185 nm for removing the contaminating material formed on an optical unit (col. 9, lines 35-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the radiation source having the desired wavelength into the exposure device for the purpose of cleaning optical components to improve the quality of images to be printed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Gurzo whose telephone number is (703) 306-0532. The examiner can normally be reached on M-Thurs. 7:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached on (703) 308-4116. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

PMG
May 19, 2003



JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800